

AGREEMENT IN ARCHI: A MINIMALIST APPROACH¹

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1 Introductory remarks

In this chapter, I will discuss how agreement phenomena in Archi might be accommodated within analyses developed under the umbrella of the Minimalist Program. Let me start with a disclaimer concerning the empirical data at hand. All the Archi data presented below have been provided by members of the Surrey Morphology Group or drawn from Kibrik and Kibrik et al. (1977a,b,c); although these data are rich and valuable, they are by their nature incomplete, and in a number of instances I have had to simply acknowledge that there is not enough information to draw definitive syntactic conclusions. This is not necessarily bad news; after all, Archi is still spoken by a thousand or so people, so hopefully the questions I raise now can be explored in the future. Another disclaimer has to do with the understanding of minimalism. As the name “Minimalist Program” emphasizes, this approach is programmatic in nature, with a primary goal of uncovering, in an optimal and predictive manner, computational procedures that generate linguistic structures. When understood in this broad way, minimalist syntax and unification-based frameworks such as HPSG are definitely compatible, as their shared goals are similar. The difference is in the details of implementation — in particular, in what elements count as features, categories, and operations. In what follows, I will not be concerned with the larger philosophical issues of the minimalist program; rather, my goal is to outline possible analyses of the Archi data using the tools of minimalist syntax.

Agreement and case have long played a prominent role in the development of minimalist syntax, and current research on ergative languages has been particularly fruitful in this area. Recent work on Archi

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agreement from a minimalist perspective includes Polinsky and Radkevich (2014) and Polinsky et al. (in press); the discussion below reflects some of the analyses put forth in these papers. Agreement in some other languages of the Nakh-Dagestanian family has received minimalist analysis: see Polinsky and Potsdam (2001, 2002); Polinsky (2003); Benmamoun et al. (2010); Gagliardi et al. (2014) for Tsez; Kazenin (1998, 2001); Gagliardi et al. (2014) for Lak; Janda (1994); Rudnev (2014) for Avar; Kazenin (2001) for Tsakhur.

This chapter is organized as follows. In section 2, I offer a brief overview of minimalist approaches to agreement; a reader familiar with minimalist syntax may skip that section and go directly to the analysis of Archi in sections 3 through 5. In section 3, I present an analysis of regular clausal agreement in Archi, showing that all agreement and case licensing happens in the *v*P. Section 4 discusses more complicated cases of clausal agreement reported by Archi scholars, namely, adverbial agreement and stative verbs. It may seem more natural to start with agreement inside the noun phrase and then move to agreement within the clause, but research on clausal agreement, and particularly on argument–predicate agreement, has been much richer, and in fact agreement in the noun phrase has often played the younger child, subjected to comparison with its clausal sibling. Section 5 discusses agreement in the Archi noun phrase and argues for a concord-based account. Section 6 summarizes the chapter.

2 Agreement in minimalist syntax

2.1 Basic principles of agreement: Agree

There are a number of overviews of agreement in minimalist syntax available; in the references below, I have limited my selection to the more recent work, which in turn includes references to earlier research.

In order to discuss agreement in minimalist syntax, we need to start with two basic notions of the minimalist program: functional categories and phi-features. *Functional categories* are elements that have purely grammatical meanings (or sometimes no clear meaning), as opposed to lexical categories, which have more obvious descriptive content. Lexical categories include verbs (V), nouns (N), adjectives (A), and most (but not all) adpositions (P). Functional categories include but are not limited to C(omplementizer), T(ense), D(eterminer), *v*, and *n*. Functional projections dominate lexical projections, and inflectional features are associated with functional, rather than lexical, heads. Strong evidence for this association between inflectional features and functional heads is provided by the syntax of tense and auxiliary expressions (cf. Radford 2004); in some other phrases, the evidence for functional heads is not as strong, but these projections are nevertheless assumed for the sake of structural uniformity.

relationships with other features, analogously to saying what the properties of atoms are such that they can enter into relationships with other atoms. From this viewpoint, the constraints on the feature theory are substantive and amount to constraining the theory itself...” (Adger and Svenonius 2012: 27).

From the standpoint outlined above, a finite and well-defined feature space is highly desirable, and as far as agreement goes, this wish is granted. Despite the astonishing morphological, lexical, and phonological variation across languages, the features that are matched in agreement are remarkably uniform cross-linguistically; they include person, number, and gender, which are together referred to as *phi-features* (*φ-features*);² see Corbett (2006), Harley and Ritter (2002), Wechsler (2009), and references therein. There is growing evidence that phi-features are organized hierarchically, in the sense that some features take precedence over others (Harley and Ritter 2002). The hierarchical organization of features plays a role in feature valuation because higher-ranked features are probed for (and valued) first, and features lower in the hierarchy are probed after that. Simplifying things somewhat, the phi-feature hierarchy is assumed to be as follows, with possible additional ordering constraints within each feature:

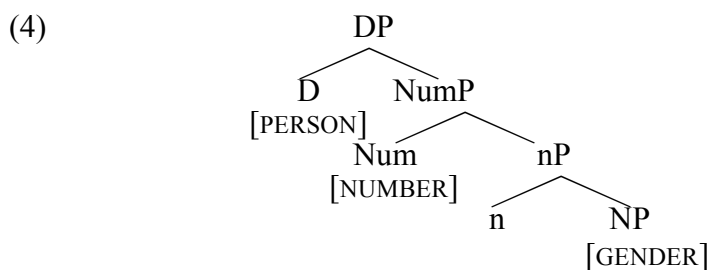
(3) [PERSON] > [NUMBER] > [GENDER]

It is relatively uncontroversial that nouns are specified for gender as they enter the derivation; gender is viewed as an inherent (lexically specified) property of nouns. Things are less clear with respect to number, and there are two possibilities; either the number feature always enters the derivation as a separate functional head (Num), one that dominates the noun phrase, as shown below, or it is at least sometimes specified the same way gender is. Finally, [PERSON] is considered an inherent property of the D head, on the assumption that all languages have DPs.³ There are a number of motivations for assuming that DPs are universal, and I am not going to

² Phi-features involved in agreement are just a subset of the more general set of phi-features, which are viewed as primitives of grammar and used to define various categories; these features include \pm Noun, \pm Verb, Case, and the wh-feature. The final of these is sometimes included in the inventory of agreement features (cf. O’Herin 2002; Caponigro and Polinsky 2011). For the purposes of this chapter, I will limit discussion to the traditional agreement phi-features [person], [number], and [gender]. The use of brackets is a standard shorthand for representing phi-features.

³ This latter assumption is not uncontroversial; for a different view, see Bošković (2005, 2008), and see Alexiadou et al. (2007) for more general discussion.

discuss them all here. Let me bring up just one such argument, namely the parallelism between the design of clauses and the design of noun phrases. Semantic parallels between tense and determiners suggest that clauses and noun phrases can be delimited the same way; for clauses, the delimiting category is tense, for noun phrases, it is a determiner (Partee 1987). The semantic parallels in turn support the conjecture that clauses and noun phrases are built in a similar manner (Borer 2005; Alexiadou et al. 2007, amongst others). Just as a clause has a (possibly unexpressed) T (or I) as its highest inflectional head, so too may a noun be expected to have as an inflectional category (D) as its highest projection. And just as inflectional heads can be silent, the D head can also be silent. Thus, DPs are assumed to have the structure shown below. This structure also indicates the DP projections associated with each of the phi-features introduced above:



Under the universal-DP analysis, it is necessary to offer accommodation for languages like Archi that lack overt determiners. Very often, such languages are assumed to possess a silent D head; this is the working assumption I adopt for the analysis of Archi proposed below.

In minimalist syntax, agreement is a morphological manifestation of the matching of features; crucially, such a sharing is asymmetrical. In principle, agreement could be conceived of as a symmetrical relationship, and this is how it is treated in unification-based frameworks (see Sadler, this volume, and Borsley, this volume). The minimalist approach, by contrast, conceives of agreement as an asymmetrical connection between two elements. These elements are linked via a single syntactic process, called *Agree* (Chomsky 2000, 2001). *Agree* identifies a constituent that has a certain feature due to its nature (for example, nouns are inherently specified for gender; pronouns can be specified for person) and matches (values) that feature on another constituent that “needs” that same feature but does not have it independently. This latter constituent thus becomes dependent on the former constituent for the feature it seeks. Crucial for the implementation of *Agree* is the notion of *feature valuation*, which states that the features required by one constituent can be valued by the matching features of a second constituent.

The constituent that needs a phi-feature (and therefore needs to seek a partner for feature valuation) searches or “probes” for a constituent with a matching feature. This feature-seeking constituent is therefore called the

agreement *probe* (this term corresponds to “agreement target” in other frameworks). The constituent that bears the semantically meaningful phi-feature, the one that the probe is looking for, is referred to as the *goal* (this term corresponds to “agreement trigger” or “agreement controller” in other frameworks).

In addition to relying on the distinction between goals and probes, Agree makes reference to a domain of application (the domain of agreement) and the hierarchical relationship between the goal and the probe. In the most general terms, the domain of a head X is the set of nodes dominated by XP that are distinct from and do not contain X (Chomsky 1995). For argument-verb agreement, the local domain is assumed to be the clause (TP) or the verb phrase (vP); for agreement within a noun phrase, the local domain is DP. Locality enforces the notion that agreement cannot be maintained if the goal is on one clause and the probe in another; this explains why (5b) is ungrammatical. Agreement restrictions arise when there is extra structure intervening between the goal and the probe (Anagnostopoulou 2005; Preminger 2014, amongst others); in (5b), the complementizer intervenes between *know* and the attempted goal *she*. Locality restrictions will not play a role in the discussion in this chapter, so I will not expand further on this discussion.

- (5) a. She make-s her own ice cream.
 b. *I know-s [(that) she makes her own ice cream].

We are now in a position to define the operation Agree:

- (6) *Agree*
 Probe A can agree with goal B iff:
- a. A carries at least one unvalued phi-feature and B carries a matching valued feature (*valuation*)
 - b. A c-commands B (*c-command*)
 - c. B is the closest goal to A that carries the phi-feature A probes for (*closeness*)

This definition is close to the definition in Chomsky (2000; 2001), but the two differ in several respects. First, following Frampton and Gutmann (2006), Pesetsky and Torrego (2007), and Preminger (2014), the definition of agreement presented here dispenses with the notion of (un)interpretability of features, which was present in the original formulation. In the original conception, the contrast between interpretable and uninterpretable features was essential because it determined what features remained in the derivation. Interpretable features were defined as features relevant for LF-interpretation, and they included categorial features and nominal phi-features. These features are not deleted or erased after they are checked

because they are relevant to the interpretative component. Uninterpretable features were defined as features that have to be deleted in the derivation; they include Case features on DPs and the phi-features on verbs.

Dispensing with feature (un)interpretability, I follow the authors cited above in assuming that Agree is a feature-sharing operation, which unites separate feature occurrences (on a goal and a probe) into a single shared formal object. Such a shared formal object can be described as a “feature bundle”; the details of this structure will not play a role below. The formulation above also abandons the activation condition (Chomsky 2001), which likewise relied on the presence of uninterpretable features in syntax.

The second point of departure from the original minimalist conception of Agree has to do with the tight link between case and agreement. In a large body of minimalist work, case and agreement are seen as two sides of the same coin: both are morphological manifestations of feature sharing created by the application of Agree. This view is well motivated; agreement often appears sensitive to case assignment — as is well known, only subjects that appear in the nominative case determine agreement in tensed clauses. Icelandic is probably one of the best-studied languages where there is good evidence that dative DPs are indeed subjects, as they meet all the subject diagnostics except one: agreement with the verb. Until recently, the predominant view has been that case and agreement are two sides of the same phenomenon, mediated by Agree (Chomsky 2000; 2001).⁴ Following this same rationale, a commonly held view has been that case licensing is a side effect of agreement. Let us call this the *case-follows-agreement* approach.

The *case-follows-agreement* approach can be challenged both empirically and theoretically (Bittner and Hale 1996; Bobaljik 2008). In fact, more recently, several researchers have argued that agreement is parasitic on case. On this approach, case licensing (case assignment) happens first, and once cases are assigned, the agreeing probe inspects the landscape of already case-marked nominals, searching for an appropriate goal (Bobaljik 2008; Preminger 2014; Levin and Preminger 2015). Thus, the licensing of case is a precondition for successful probing. Not all cases are equally accessible to agreement, and their accessibility is determined by a case hierarchy which is roughly as follows (Bobaljik 2008; Levin and Preminger 2015):⁵

⁴ An even stronger version of this approach holds that case assignment is directly contingent on the valuation of ϕ -features. See Preminger (2014: Ch. 8) for discussion.

⁵ This case cline is inspired by earlier work by Moravcsik (1978), and the references cited here refer to it as the “Moravcsik hierarchy.”

- (7) unmarked case > dependent case > lexically-determined (inherent) case

Without going into the details of the hierarchy in (7), I will refer to this model of the division of labor between case and agreement as the *agreement-follows-case* approach.

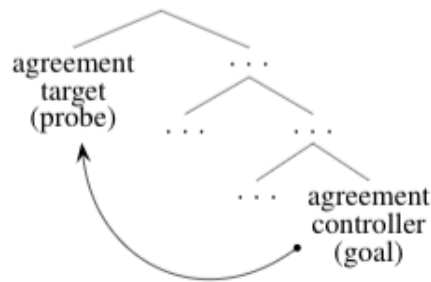
There has been discussion in the literature concerning the directionality of Agree: does it always probe in one direction (up or down), or can it probe both ways? Not only have divergent opinions been expressed, but different terminologies have been used as well. If agreement is firmly associated with Agree (which is not necessarily the case) and is defined in terms of the directionality of the search operation (i.e., a probe looks for an appropriate goal), then the relationship between the higher probe and the structurally lower goal is captured as downward Agree. The relationship between the lower probe and the structurally higher goal is described as upward Agree. However, the desire to focus on the phenomenon of feature-sharing or matching rather than on a particular mechanism of feature-value transmission presents a compelling reason to depart from such terminological usage. We arrive instead at a new way of querying the probe-goal relationship: in which direction are phi-features transmitted from the goal to the probe, viz., is the agreement controller, that is, the constituent that inherently bears the relevant phi-features and transmits them to the probe structurally lower or higher than the probe itself? If we approach the matching of features from this angle, it makes sense to adopt agreement terminology that is based on the direction of valuation. Such valuation-based terminology is adopted below, reflecting the transmission of valued features up or down in the structure: upward valuation versus downward valuation (see also Preminger and Polinsky 2015 for discussion).

All the logical possibilities have been proposed and argued for in the literature:

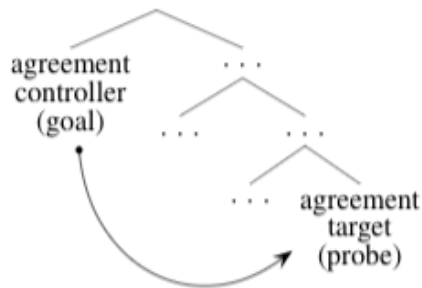
- (8) a. Upward valuation: valuation proceeds from the c-commanded goal to the c-commanding probe (Chomsky 2000; 2001; Diercks et al. 2011; Carstens and Diercks 2013; Preminger 2013)
b. Downward valuation: the direction of valuation is from the c-commanding goal to the c-commanded probe, the reverse of (8b) (Zeijlstra 2012)
c. Hybrid valuation: the direction of valuation can go up or down (Baker 2008; Bjorkman and Zeijlstra 2014, and references therein)

The first two options are shown in the following structures; hybrid valuation entails the availability of (8a) and (8b) in the same system.

- (9) a. Upward valuation



- b. Downward valuation

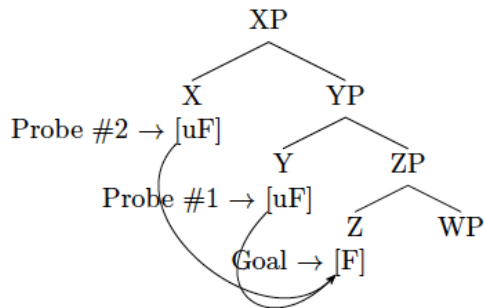


A number of arguments point to the conception of upward valuation as preferable. In fact (8a) is fully compatible with the Archi data, with one exception: the agreement between the absolutive subject of unergative predicates, which bears the relation to the probe as shown in (8b). Such restricted downward valuation requires further investigation, which is ongoing in minimalist work on agreement.⁶

So far, we have established the main ingredients of Agree as a local agreement relation between a probe bearing an unvalued phi-feature [uF] and a structurally lower goal bearing a valued version of that same feature. In the structure that follows from this notion of Agree, there is no apparent constraint against several c-commanding probes valuing their features by establishing a relation with the same goal. This valuation, which I will refer to as *multiple probing*, is schematically represented below:

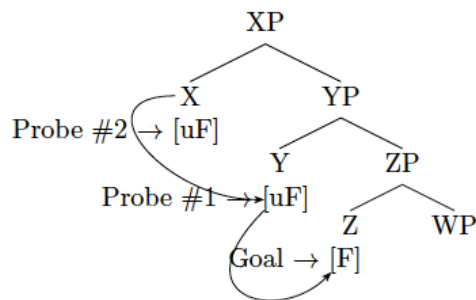
⁶ As an aside, (8a) or (8c), but not (8b), can successfully account for the more complex agreement data in a related language, Tsez (see Preminger 2013 and Preminger and Polinsky 2015, for a discussion).

(10) Multiple probing



The alternative to this approach is *successive valuation*, where agreement with a given goal can happen only once. In this case, the closest probe (probe #1 in (11)) would agree with the goal, and the probe above it (probe #2 in (11)) would value its feature using the already-valued feature on probe #1. Thus:

(11) Successive valuation

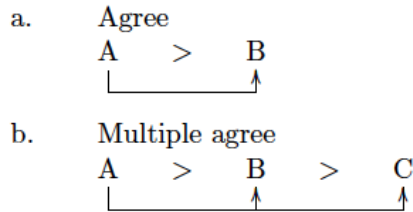


Empirical facts from agreement in Ibibio (Baker and Willie 2010) suggest that multiple probing is a less preferred option. In addition, if we take seriously the conception that Agree unites feature occurrences into instances of one shared formal object (see above), then multiple probing forces us to revise the shared formal object as the derivation progresses (see also Režac (2003) for additional theoretical considerations). These considerations point toward successive valuation as the more reasonable analysis; I adopt this approach below.

The other side of multiple probing is the notion of Multiple Agree: a process whereby a single probe values features on more than one goal simultaneously. Thus, if (12a) is a schematic representation of regular Agree, where one goal values the features on one probe, (12b) schematizes Multiple Agree, with one goal (A) valuing features on two probes, B and C, at the same time (see Hiraiwa 2001 for a global approach to Multiple Agree,

and see Nevins 2011 n for the discussion of possible subtypes of Multiple Agree).

(12)



Researchers have questioned the validity of Multiple Agree on theoretical and empirical grounds. On general conceptual grounds, Multiple Agree is undesirable because it does not allow us to maintain the strict locality condition on Agree, which is one of the most robust characteristics of agreement and a condition that is otherwise important in other linguistic representations. The very nature of Multiple Agree dictates that a probe need not have a local relation with the goal, which is undesirable. Empirical considerations against Multiple Agree have been advanced based on data from a number of languages; data on negative concord in West Flemish are among the most persuasive (Haegeman and Lohndal 2010).

This brings this short overview to a close. To summarize, agreement is an asymmetrical relation of phi-feature valuation in which a constituent with a feature deficit seeks to fill this void by acquiring a matching feature from a partner constituent. Agreement is conceived of as a strictly local relationship, with features normally valued upward, from the goal c-commanded by the probe. Such valuation is subject to a one goal/one probe relationship (hence no Multiple Agree or successive valuation). Agreement is a phenomenon that follows (rather than precedes) case licensing.

2.2 Basic principles of agreement: Concord

Agreement is traditionally compared with *concord*, and a number of frameworks try to capture the difference between the two (consider Borsley, this volume, on the difference between agreement and concord in HPSG). Different researchers seem to have different understandings of what agreement and concord entail, which makes clear-cut division of the phenomena challenging. Descriptively, there are two main approaches which are separated by their answer to the following question: does agreement in the nominal domain arise through the same mechanism as verbal agreement?

Proponents of the *unifying approach* answer this question in the affirmative, assuming that agreement in the nominal domain and in the verbal domain is established using Agree. This approach is justified given strong parallels between clausal and nominal architecture emphasized in the

current generative work (cf. Alexiadou et al. 2007 for an overview and discussion of the relevant parallels). The unifying approach has been championed in some recent work on agreement, especially agreement within DP, although the actual terminology used varies (Carstens 2000; Baker 2008; Kramer 2009; Danon 2011, 2012).

A contrasting approach can be described as *differential*; under such an approach, concord and agreement may involve different features, and concord can be marked in more places than agreement can (den Dikken 2006; Kramer 2009; Norris 2014). The motivation for concord is viewed as different from the motivation for agreement. Under Agree, it is feature valuation that, as mentioned above, creates a new complex object. Under concord, agreement amounts to feature copying; such copying is not as constrained as Agree is and can occur on multiple nodes—a situation that is problematic for Agree (see above). Thus, the notion of concord dispenses with the one goal/one probe approach, allowing for the concordial equivalent of Multiple Agree. Unlike feature valuation, which is subject to severe restrictions, copying can occur multiple times and on multiple probes.

To anticipate the discussion below, Archi nominal agreement data are amenable to the differential approach (section 5). However, that does not immediately mean that the unifying approach should be rejected. Rather, agreement in the nominal domain may need to be inspected on a language-by-language basis.

2.3 Distributed Morphology

A few remarks are in order concerning the interface between syntax and morphology under minimalist-syntactic analyses. The relationship between syntax and morphology (i.e., surface representation) can be captured in a number of ways. Here, I will touch upon just one: Distributed Morphology (DM). Distributed Morphology assumes that the input to morphology is syntactic derivation. This means that syntax is the source of grammatical features and determines, in a principled way, how such features are arranged (Halle and Marantz 1993; Harley and Noyer 1999, Embick 2010; Bobaljik 2012). The following assumptions are particularly important for this model:

- (13) Distributed morphology: Basic assumptions
 - a. *Syntactic hierarchical structure all the way down*: elements within syntax and elements within morphology enter into the same types of constituent structures (such structures can be diagrammed through binary-branching trees); these elements (both in syntax and in morphology) are understood as discrete units
 - b. *Late insertion*: syntactic categories are purely abstract, having no phonological content; only after syntax are phonological

expressions, called Vocabulary Items, inserted through the process of Spell-Out

- c. *Morpheme*: morphemes consist of syntactic or morphological terminal nodes and their content (whereas the phonological expression of those terminals is provided within Vocabulary Items)

In sum, under DM, each morpheme corresponds to one functional head in syntax. This arrangement bypasses the problem of multiple exponence by postulating a series of (possibly invisible) functional heads, which carry overt agreement markers to spell out the relevant phi-features.

With this short background on the minimalist approach to agreement, we can now turn to the application of minimalism to agreement in Archi.

3 Clausal agreement in Archi

3.1 The ingredients of Archi structure

3.1.1 Gender specification

Within Archi clausal syntax, the predicate, some adverbs, some pronouns, and the enclitic particle *-ejt'u* agree with the absolutive argument in gender and number. Agreement with both categories is encoded by a single exponent, which again suggests that the two features may be bundled together. If we consider the agreement affixes on the verb, for example as in (14) (see also Chapters 1 and 2), we can identify six different values of the relevant phi-feature bundle. In what follows, I will refer to this agreement as agreement in [GENDER]; this is just a shorthand for the bundle composed of gender + number values.

- (14) Archi agreement prefixes (as marked on verbs)

	SG	PL
I	w-	b-
II	d-	
III	b-	Ø-
IV	Ø-	

All noun phrases in Archi syntax have a gender feature, where “gender” subsumes singular/plural distinctions; the outcome is a series of six genders, four of which mark singular nouns, and two of which mark plural. This descriptive simplification is helpful from an expository standpoint; one could just as readily divide gender and number into separate specifications (and in fact, the structure in (17) below allows us to do just that).

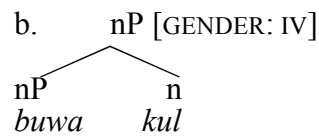
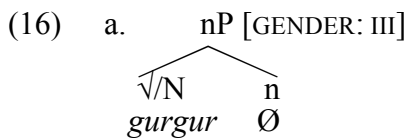
The statement, “all noun phrases in Archi syntax have a gender feature,” entails that gender/number specification is encoded in DP. The following principle rearticulates this fact in formal terms:⁷

(15) *Gender Specification Principle*

All Archi DPs must be specified for [GENDER]

This principle is supported by the structure of the *nP*, to which we now turn. Reference to *nP* is required in order to establish how the specification of gender and number on a given noun is transferred to the syntax where it can interact with other constituents of structure. In other words, we must begin our broader syntactic account by identifying the source of gender and number features. These features are represented on the noun phrase (DP), which serves as the goal for different agreeing probes. We can follow Embick and Marantz’s (2008: 5) proposal that all roots combine with a category-defining functional head, distinguished by virtue of its feature content: *n* for nouns and *v* for verbs. The *nP* head is the syntactic phrase within the DP that encodes the semantically contentful features [GENDER] and [NUMBER]. Derivation starts from the lexicon, which provides roots. The nature of roots and their specification (with respect to lexical categories or selection) is a subject of considerable debate and I will not review it here; see Harley (2014) for a detailed discussion and arguments in favor of considering roots as individuated in narrow syntax.

Regardless of whether a root is or is not specified, it combines with the functional head *n*, and the resulting *nP* enters the syntactic structure with a gender feature. Compare the derivation of the noun *gurgur* ‘turkey’ in (16a), where the *n* head is null, and the derivation of a complex noun *buwakul* ‘motherhood’ in (16b), where the *n* head is overt. The gender contributed by the *n* head overwrites any gender that may be present on the nominal complement. In (16a), the root *gurgur* is not specified for gender and the gendered noun *gurgur* appears by virtue of its combination with the null head. However, in (16b), the gender of the noun *buwa* ‘mother (gender II)’ is deleted when it combines with the gendered head *kul*.



⁷ This principle does not indicate the means of gender specification, i.e., the manner in which the gender of a given expression is determined — whether the gender determination is unambiguous, whether a given noun may be of common gender, etc.

As discussed in the preceding section, agreement is sensitive to the hierarchical structure of the clause; agreement-bearing categories (probes) must be in a higher structural position than the base position of their goals (6b). The goal also has to meet the *closeness condition*, which requires that it be the closest available feature-bearing constituent that the probe can share features with (6c).

3.1.3 Hierarchy of arguments in the clause

In order to derive Archi agreement, we first need to evaluate the structure of Archi clauses in more general terms. Using standard diagnostics of hierarchical relations between arguments, we observe that an ergative argument can bind a reflexive in the absolutive position but not vice versa:

- (19) a. Pat'i-mu inža<ɾ>u čučebo.
 Pati.II-SG.ERG REFL.ABS<II.SG> wash.PFV
 ‘Pati washed herself.’
 b. *že<ɾ>u Pat'i čučebo.
 REFL<II.SG>.ERG Pati.II.SG.ABS wash.PFV
 (‘Pati washed herself.’)

Next, only the ergative but not the absolutive object can serve as the covert subject of an embedded transitive control clause. Consider the grammatical (20a), which instantiates regular control from the object of the matrix clause (*ustar* ‘master’) to the understood subject of the embedded clause, and the ungrammatical (20b), which attempts to establish a control relation between the object of the matrix clause and the object of the embedded clause:

- (20) a. ʃAli-mu ustar u<w>k'u
 Ali.I-SG.ERG craftsman.I.SG.ABS <I.SG>force.PFV
 [PRO duχ:ʰan halmu χir a<w>-s].
 mill.GEN owner(I).ABS behind <I.SG>do-FIN
 ‘Ali made the master bring the miller.’
 NOT: ‘Ali made the master be brought by the miller.’
 b. *ʃAli-mu ustar u<w>k'u
 Ali.I-SG.ERG craftsman.I.SG.ABS <I.SG>force.PFV
 [PRO duχ:ʰan halmu-mu χir a<w>-s].
 mill.GEN owner-ERG <I.SG>do-FIN
 (‘Ali made the master be brought by the miller.’)

The binding and control data confirm that the ergative DP is structurally higher than the absolutive object; in other words, the ergative is the subject.⁸

⁸ The ability to determine coreference across clauses, as in (i), is often included in the list of diagnostics for determining hierarchical relationships

3.2 The syntax of Archi agreement (and case)

3.2.1 The verb phrase as the locus of licensing of Archi case and agreement

Archi probes look for a goal bearing the feature [GENDER]. Given that the subject (including ergative subjects) is the highest (and closest) available goal, it is conceivable that it would be “considered” for agreement by the probe; as the facts show, however, the agreement relation bypasses this subject, much as agreement bypasses dative subjects in Icelandic, Spanish, Russian, and many other languages (Bobaljik 2008; Baker 2013). Consider the following standard Spanish example, where the verb ‘like’ must agree with the nominative, not with the dative subject (let us set aside dialectal variation with respect to *gustar*):

- (21) No me gustan/*gusto los exámenes.
not me.DAT like.3PL/1SG DET exams
‘I don’t like the exams.’

The basic structural explanation for such non-agreement is straightforward. The probe is specified to look for a certain feature, and it cannot accept just any feature. This search for a particular feature is described as *relativized probing* (Preminger 2014: 39ff.), and is not a phenomenon unique to agreement; for example, interrogative heads (C[wh]) ignore phrases that do not bear a [wh] feature, focus heads bypass phrases without a focus feature, and so on. Oblique subjects such as ergative and dative DPs do not bear the [GENDER] feature; as a result, the probe ignores them.

The question of what exactly prevents the ergative or dative from carrying the relevant phi-feature is more difficult. Different frameworks have noted that ergatives (and datives, for that matter) are not good controllers of agreement (cf. Moravcsik 1974, 1978, 1988, for an early statement of that deficiency). While this descriptive generalization is solid, it has received no convincing explanation, and theories deal with ergative agreement deficiency in a variety of ways. Minimalist analyses often stipulate that ergative and dative are inherent cases (as opposed to structural cases such as nominative, accusative, absolutive), and that inherent cases are uniformly invisible to agreement operations. This is certainly less satisfying than the basic idea of relativized probing, and more work is needed to explain precisely why and when ergative and dative subjects do not make good agreement goals.

between subjects and objects. However, this is an unreliable diagnostic, since coreference is not based on syntactic properties alone.

- (i) John_i saw Bill_k and *pro*_{i/*k} got upset.

Once the ergative is deemed ineligible for agreement, the probe continues its search down through the structure until it reaches the phrase with the relevant features. That phrase is the absolutive DP — the closest constituent that can deliver the feature [GENDER] to the probing functional head.⁹ But “closest” to what? That takes us to the question of what the locus of Archi agreement is.

It is commonly assumed, based primarily on data from nominative-accusative languages, that agreement is associated with the functional head T(ense), which agrees with the subject. Among other pieces of evidence for associating T with the probe is the absence of agreement in non-finite structures, as shown by the English examples:

- (22) a. The probe agree*(s) with the goal.
b. We watch [the probe agree/*agrees with the goal].

Unlike English, Archi non-finite clauses have the same agreement and case-marking characteristics as finite clauses. Initial evidence for this parallel can be found in the infinitival clause in (20), where the object is in the absolutive and the infinitival form of the verb agrees with it. Let us see if this initial evidence withstands scrutiny.

Compare the following finite clauses and the corresponding tenseless nominalizations and participial clauses; in each, the case assignment and agreement is the same, which means that case is licensed and agreement is valued at the level of the verb phrase, not at TP. It is also important to note that the identity of case assignment and agreement across non-finite and finite clauses holds regardless of transitivity. This is relevant because, for at least some ergative languages, researchers have argued that the absolutive object and the absolutive subject are licensed in different configurations (see Aldridge 2008; Legate 2008; Coon 2013 for a discussion).

To illustrate the licensing of case and agreement, consider examples (23) through (25). The predicate (23) is an intransitive verb; in (24), we find a transitive verb that takes an ergative and an absolutive argument; in (25), the verb selects a dative subject and an absolutive object.¹⁰ In each of these

⁹ If the search fails, the derivation goes on, but with ‘default’ agreement—for Archi, that is gender IV. I will return to the issue of default agreement below; for a general theoretical discussion of “agreement failures”, see Preminger (2014).

¹⁰ This frame is an instance of the so-called *affective construction* commonly found with psychological state verbs in Nakh-Dagestian languages; see Comrie and van den Berg (2006) and Cysow and Forker (2009) for details.

examples, (a) is a finite clause, (b) is an instance of vP-nominalization (in the Caucasological tradition, these nominalizations are called *masdars*), and (c) shows a tenseless participial construction. In addition, in (24) and (25), examples (d) present embedded non-finite vP structures with the restructuring aspectual verb *kes* ‘become’; in this usage, its meaning is close to ‘happen (to); manage; contrive’.

- (23) a. Pat’i dogi-li-t:i-š e<ɾ>ku.
 Pati.II.SG.ABS donkey.III-SG.OBL-SUP-EL <II.SG>fall.PFV
 ‘Pati fell off a donkey.’
- b. Pat’i dogi-li-t:i-š d-ek-mul
 Pati.II.SG.ABS donkey.III-SG.OBL-SUP-EL II.SG-fall-MSDR
 ‘Pati(‘s) falling of a donkey’
- c. [Pat’i dogi-li-t:i-š
 Pati.II.SG.ABS donkey.III-SG.OBL-SUP-EL
 e<ɾ>ku-t:u-t] biq’^w
 <II.SG>fall.PFV-ATTR-IV.SG place.IV.SG.ABS
 ‘the place where Pati fell off a donkey’
- (24) a. Rasul-li tilivizor b-esde.
 Rasul.I-SG.ERG tv.set.III.SG.ABS III.SG-buy.PFV
 ‘Rasul bought a TV.’
- b. Rasul-li tilivizor b-uš-mul
 Rasul.I-SG.ERG tv.set.III.SG.ABS III.SG-buy-MSDR
 ‘Rasul’s buying a TV’
- c. [Rasul-li tilivizor
 Rasul.I-SG.ERG tv.set.III.SG.ABS
 b-ešde-t:u-t] biq’^w
 III.SG-buy-ATTR-IV.SG place.IV.SG.ABS
 ‘the place where Rasul bought a TV’
- d. [Rasul-li tilivizor b-ušbu-s]
 Rasul.I-SG.ERG tv.set.III.SG.ABS III.SG-buy-FIN
 et:i.
 <III.SG>become.PFV
 ‘Rasul managed to buy a TV.’
- (25) a. Laha-s Rasul w-ak’u.
 child.I.SG.OBL-DAT Rasul.ABS.I.SG I.SG-see.PFV
 ‘A/The child saw Rasul.’
- b. laha-s Rasul w-ak-mul
 child.I.SG.OBL-DAT Rasul.ABS.I.SG I.SG-see-MSDR
 ‘the child’s seeing of Rasul’
- c. [laha-s Rasul
 child.I.SG.OBL-DAT Rasul.ABS.I.SG

	w-ak:u-t:u-t]	biq' ^w	
	I.SG-see-ATTR-IV.SG	place.IV.SG.ABS	
	‘the place where the child saw Rasul’		
d.	[Laha-s	Rasul	w-aku-s]
	child.I.SG.OBL-DAT	Rasul.ABS.I.SG	I.SG-see-FIN
	e<w>t:i.		
	<I.SG>become.PFV		
	‘The child happened to see Rasul.’		

To reiterate, these data show that the agreement-bearing head in Archi is not T or I (the inflectional head of the finite clause), but rather *v*.¹¹ Both *v* or Voice have been used as labels for this functional head in the literature (see Harley 2013, Legate 2014, for a discussion and overview); for the purposes of this chapter, I will assume that functional heads in the verbal complex are uniformly *v*, but nothing hinges on this particular representation. What matters is that all case licensing and agreement licensing in Archi happens in the *v*P, at the early stages of clause-structure building. I would like to underscore that this result cannot be extrapolated to other ergative languages,¹² or even to the other Nakh-Dagestanian languages; for each language, one needs to look at non-finite structures to ascertain whether or not they differ from tensed ones in terms of case and agreement.

3.2.2 Deriving basic structures in Archi

We can now derive the basic phrase structure of Archi. It is important to keep in mind that Archi has V-to-*v* head movement. The evidence for this movement comes from the order of roots and agreement markers in lexical verbs. The lexical verb corresponds to V in the syntactic structure, whereas agreement markers (Agr) are lexical realizations of the [GENDER] feature on *v*. With the exception of stative verbs (which I will discuss in section 4), Archi verbs are always inflected with agreement markers. These agreement markers can be either prefixal or infixal, but never suffixal. Thus, we observe the sequences Agr-Root, with a prefix, and <Agr.Infix>-Root, with an infix, but not *Root-Agr. The licit orders correspond to *v*-V and <*v*>-V; the order *V-*v* is excluded. The only way to derive these morpheme orders in a head-final (V-*v*) language is to assume that V undergoes head movement to *v*, yielding a complex head consisting of the lexical verb and

¹¹ For additional evidence in support of this conclusion, see Polinsky et al. (to appear).

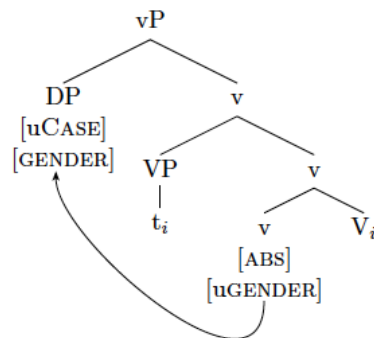
¹² See Aldridge (2008); Legate (2008) for a discussion of variation across ergative languages with respect to licensing heads T vs. *v*.

the functional head. This type of (short) verb movement is otherwise attested (cf. Legate 2014), so Archi is well within the range of possibilities.

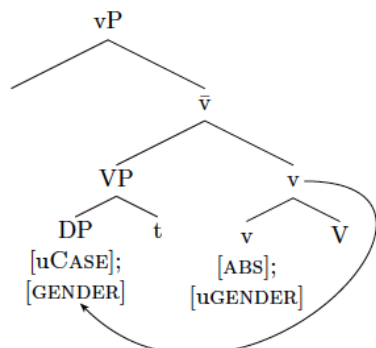
Most simple dynamic (non-stative) verbs require agreement marking. Out of the 163 simple dynamic verbs reported in the Archi dictionary (Chumakina et al. 2007), 144 require overt agreement; the remaining 19 seem to be lexically specified (Chumakina and Corbett 2015); we understand this lexical specification as blocking the surface realization of agreement rather than the presence of agreement in general. Simple verbs can combine with non-inflecting lexical items to form complex verbs, in which case the verbal component still inflects for agreement. All this evidence points to the conclusion that all verbs enter the derivation with the [GENDER] feature as part of their specification; this feature must subsequently be valued.

The absolutive, be it the subject of an intransitive or the object of a transitive, is licensed by the lowest *v*; this functional head carries a Case feature and an unvalued gender feature, as shown in (26) and (27) Thus, the merging of this head into the structure produces the absolutive argument. This argument receives its case from the functional head *v* and enters into a phi-feature-sharing relation with that argument. The result is agreement between the absolutive and the verb. As I mentioned in section 2.1, this is the only instance of agreement in Archi where the direction of valuation is presumably downward albeit in a very small domain, the *v*P.

(26) a. unergative intransitive

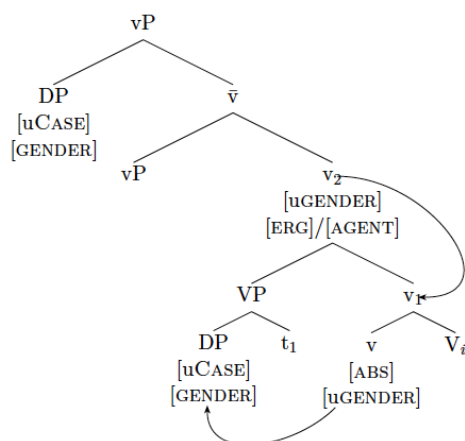


b. transitive



By assumption, ergative and dative are inherent cases (Aldridge 2008, Woolford 2006, Legate 2008, amongst others); they are licensed as external arguments of the next functional head, v_2 . The ergative case comes with an [AGENT] feature on v (see Wurmbrand 2013 for general properties of such a feature and Gagliardi et al. 2014 for its valuation in Lak and Tsez). The derivation for transitive verbs is as follows. The closest v head (v_1) assigns absolutive case to the object and values its gender feature on the object DP. The next head, v_2 , assigns inherent ergative case to the higher DP; however, this DP does not have a visible [GENDER] feature to value, so the verbal head v_2 has to continue with its relativized probing. When it encounters the valued [GENDER] feature on v_1 , valuation occurs on v_2 , as shown below (only agreement valuation is shown).

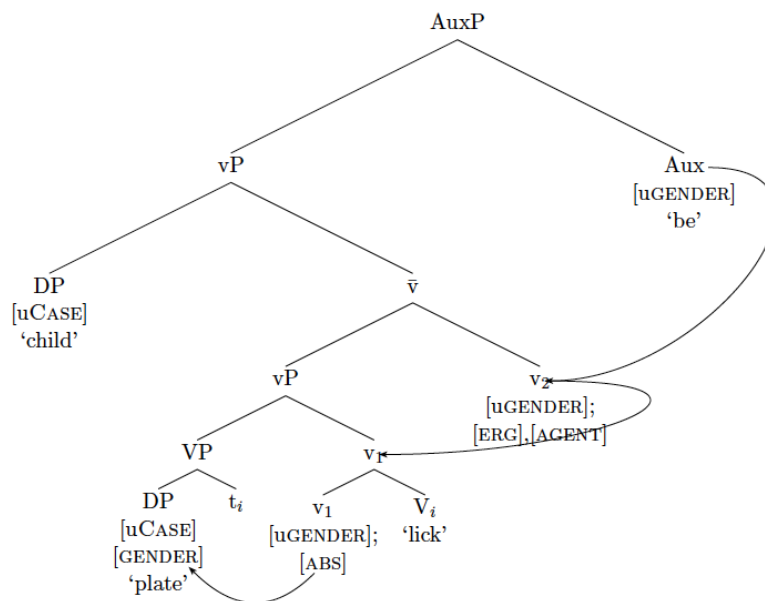
(27)



The v heads can both be silent, which is why we do not see multiple instances of overt agreement in some forms. However, if the verbal form selected by the derivation includes an auxiliary, then agreement can appear

on each overt verbal constituent, and hence more than once within a phrase; this phenomenon is illustrated in the present tense example below, which includes the auxiliary *i* ‘be’ (Kibrik 1977b: 186ff.).¹³

- (28) a. Laha waʳrtʰi b-ača-r-ši b-i.
 child.ERG plate.ABS.III III-lick-IPFV-CVB III-be.PRS
 ‘The child is licking the plate.’ (Kibrik 1977b: 187)
- b.



The example in (28a) takes us to another important contrast observed in Archi: between ergative and absolutive constructions. Compare (28a) and (29a):

- (29) a. [DP Lo] [DP waʳrtʰi] b-ača-r-ši w-i.
 child.ABS.II plate.ABS.III III-lick-IPFV-CVB I-be.PRS
 HIGHER ABS LOWER ABS
 ‘The child is licking the plate.’
- b. *Lo waʳrtʰi w-ača-r-ši b-i.
 child.ABS.II plate.ABS.III I-lick-IPFV-CVB III-be.PRS
- c. *Lo waʳrtʰi b-ača-r-ši b-i.
 child.ABS.II plate.ABS.III III-lick-IPFV-CVB III-be.PRS

The difference between the sentences in (28a) and (29a) is twofold. First, the argument that is expressed by the ergative in (28a) is expressed by a

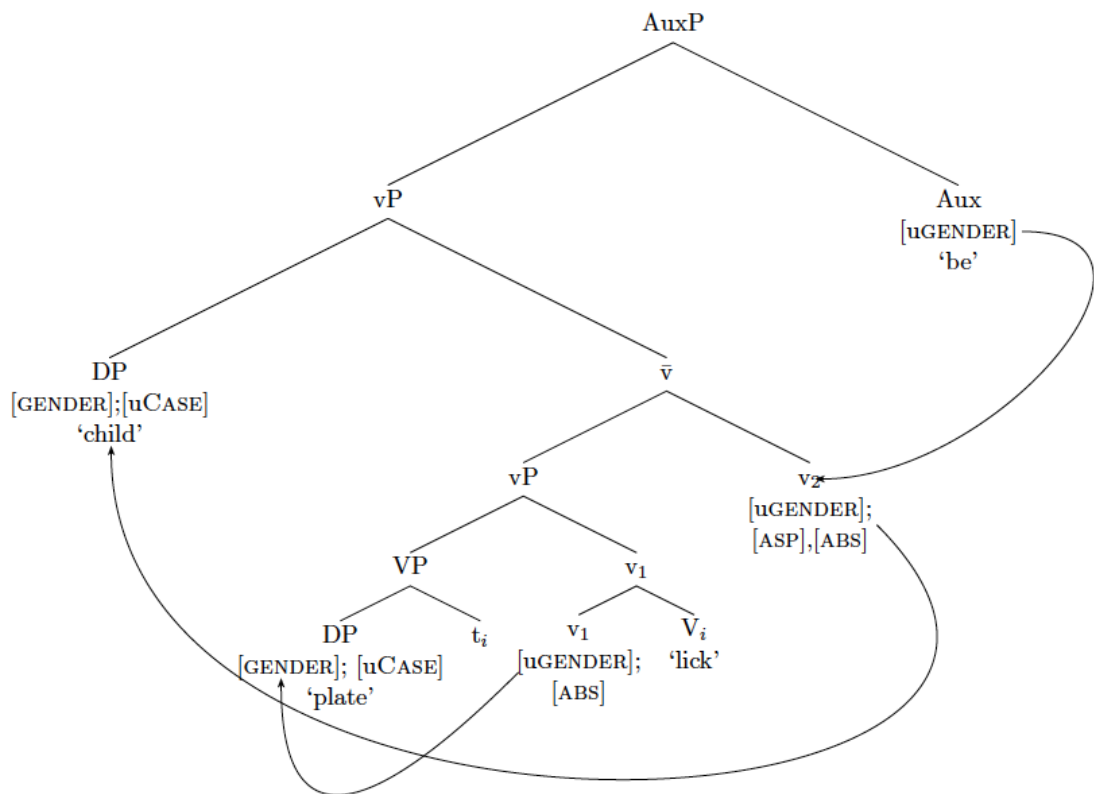
¹³ Here and below, I am using English glosses in the structural schemas for illustrative purposes.

second absolutive in (29a); hence the term “biabsolutive” (or “binominative”) construction (Kibrik 1975; Forker 2012). Second, the auxiliary verb *i* ‘be’ agrees with the higher (“added”) absolutive; the lexical verb still agrees with the lower absolutive, just as in the ergative construction. As (29b,c) show, no other agreement configuration is possible. Thus, Archi biabsolutives are two-place predicate constructions in an analytical form where both arguments are in the absolutive and where agreement systematically tracks both.

Biabsolutive constructions have been noted in Archi (see Chumakina and Bond, this volume), and are in general widely attested in Nakh-Dagestanian (Forker 2012; Gagliardi et al. 2014) and other languages with ergative alignment (Coon 2013: 195-199). Although the biabsolutive constructions in these various languages look similar on the surface, they are not structured in a uniform way: some biabsolutive constructions are monoclausal and some are biclausal (Gagliardi et al. 2014). For the purposes of this chapter, I will only discuss the biabsolutive construction with the converb in *-ši*, as in the example above. The properties of the other biabsolutive construction, with the converb in *-mat*, are different (Polinsky and Radkevich 2014).

Kibrik (1975) argues that Archi constructions such as (29a,b) are monoclausal, since they freely allow scrambling and show only one instance of negation. If these structures are in fact monoclausal, then the main difference between the ergative and the biabsolutive construction has to do with the nature of the second functional head *v*. In the ergative construction, that head assigns inherent ergative case; in the biabsolutive construction, it is an aspectual head specified for absolutive assignment. Evidence for the aspectual nature of the biabsolutive *v* head comes from the obligatorily progressive or durative reading of that construction. Assuming an agreement-follows-case approach to Agree, once the higher absolutive case is assigned, the aspectually specified verbal head probes for a gender phi-feature on the higher absolutive DP:

(30)



Structural properties of the biabsolutive construction are thus accounted for. However the optionality of the biabsolutive construction remained unresolved; since ergative constructions can also readily host a progressive reading, it remains to be seen what factors determine the choice between the two. It is conceivable that the choice between sentences such as (28a) and (29a) is based on subtle interpretive characteristics of these constructions; such nuances of meaning need to be captured regardless of the syntactic framework used to model the structure of these sentences.

To summarize this section, the main properties of Archi agreement and case licensing are as follows:

- (31) all case licensing is done in vP: absolutive case is always licensed by v_1 on arguments in intransitive constructions (unaccusatives and unergatives); ergative case on external arguments is licensed by v_2 when it bears the [AGENT] thematic feature; dative case on external arguments is licensed by v_2 when it has the [EXPERIENCER] thematic feature;

‘He fell in love with Aisha a very long time ago.’
 (Chumakina and Bond, this volume, ex. (54))

Although some descriptions suggest that agreeing adverbs also include the degree adverb ‘very’ (cf. Chumakina and Corbett 2015; Chumakina and Bond, this volume), the adverb in the relevant example is the same as ‘long ago’, shown in (36); compare (36) and (37). It therefore remains to be seen if genuine degree adverbials in Archi show agreement.

- (36) Arša **horo:keju** iškul dablu.
 Archi.IN.ESS **long.ago<III.SG>** school(III).SG.ABS open.PFV
 ‘A school was opened in Archi a very long time ago.’
 (Kibrik et al. 1977a: 326)

In contrast, TP-level adverbs never show agreement. Consider the following example:

- (37) ***Talahliš-ijr’u/ejt’u** χ⁶el
 fortunately-II.EMPH/IV.EMPH rain.IV.SG.ABS
 eχdi-t’aw da-q⁶a.
 IV.SG.to.rain.PFV-CVB.NEG II.SG-come.PFV
 (‘Fortunately, I (woman speaking) came back before it rained.’)

Cross-linguistically, adverb agreement is rare, but not unattested. Agreeing adverbs have been reported in Italian dialects (Antrim 1994; Ledgeway 2011), in Spanish (Fábregas and Perez 2008), in Dutch (Corver 2007), in Shipibo (Baker 2014), in Hungarian (Csirmaz 2008), and in Bantu (Carstens and Diercks 2013). In all these instances, the set of agreeing adverbs is quite small, including one or two lexical items. Agreeing adverbs also occur in other Nakh-Dagestania languages, as attested by language descriptions (e.g., Forker 2013: 465-466 for Hinuq).

The facts about Archi agreeing adverbs are scarce; in particular, we do not have information about the relative placement or scope properties of agreeing and non-agreeing adverbs. We also need more information in order to determine whether all adverbs are licensed in a uniform manner. Unlike verbs, the majority of which show agreement, only a subset of Archi VP-level adverbs can carry agreement exponents: Chumakina and Corbett (2015) and Bond and Chumakina (this volume) identify almost four hundred Archi adverbs, of which only 14 agree. Let me say that the sheer number of Archi adverbs reported in this study is quite astounding; a cursory look at the English lexicon yields a much lower number. It would be instructive to find out what subtypes of adverbs emerge among the 383 listed. In the face of such an enormous number of adverbs, and without knowing what they all are, we could hypothesize that half are *v*P-level adverbs, and the other half

are TP-level. If so, it could be that all VP-level adverbs are agreeing, but some morphological or phonological constraints prevent them from showing agreement, just as happens with the 19 non-agreeing verbs. This possibility raises learnability problems, however; an Archi learner must either learn the agreeing adverbs as exceptions or encounter them so frequently that their agreeing status is no longer an issue.

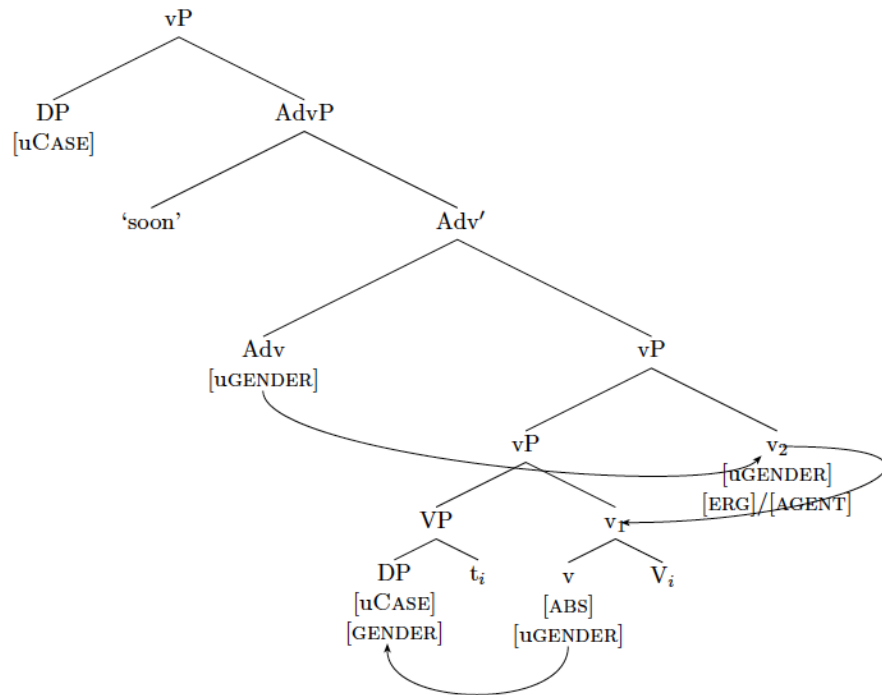
Without additional information, I can only sketch out possible solutions which should be further investigated once new data is available. Among the possibilities outlined here, the first three (38a-c) treat adverbs as a special category, while the fourth (38d) assimilates adverbs to adjectival modifiers.

- (38) Possible analyses of agreeing adverbs in Archi
- a. Agreeing adverbs represent dedicated functional heads in vP
 - b. Agreeing adverbs are adjuncts with unvalued phi-features adjoined to vP
 - c. Agreeing adverbs are adjuncts that undergo head movement to v
 - d. Agreeing adverbs are modifiers of an absolutive DP

Analysis (38a) posits a number of adverbial phrases in clause structure, each heading its own projection. An articulated version of this approach, developed by Cinque (1999), contends that adverbs occur in the specifier positions of various functional projections which themselves occur in a fixed relative order. When a given adverb appears in different positions with the same interpretation, it indicates movement from a base position; when an adverb appears in two different positions with different interpretations, it suggests that they are two different although homophonous adverbs. Adopting this approach, one could imagine that agreeing adverbs are in the specifier of a particular head, which bears a [GENDER] feature. The head values this feature from the features of the closest goal, via successive valuation. For example, in (39), the adverbial phrase is projected between $vP1$ and $vP2$; the first functional head values its phi-feature on the gender feature of the internal argument; v_1 values its gender feature on v_2 , and the adverbial head values its gender feature on v_2 .¹⁵ The head itself is silent, so the morphological exponent of agreement attaches to the phrasal specifier, resulting in an infix or prefix (the structure below does not show the details of case valuation).

¹⁵ In this structure, I abstract away from the actual labels proposed by Cinque for the different adverbial projections and simply use AdvP without further specification.

(39)

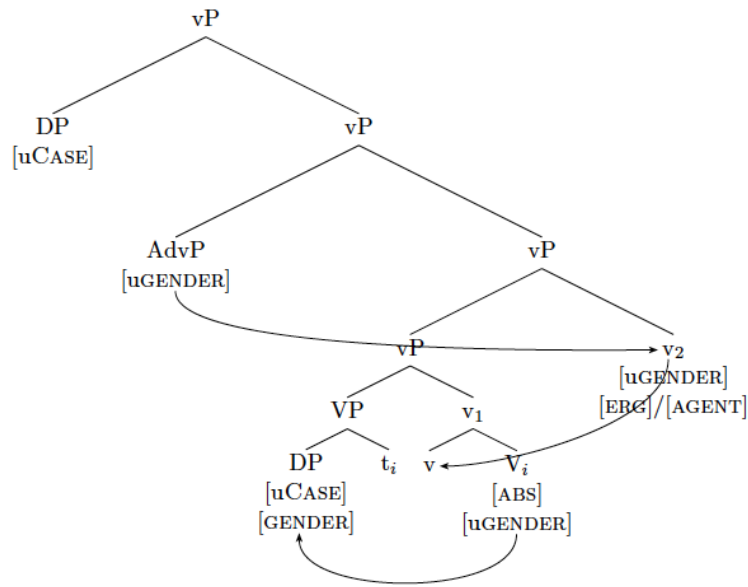


Cinque's adverbial hierarchy, which he developed based on observations of the relative ordering of adverbs and verbal heads, has generated a great deal of discussion in the literature, and has certainly inspired interesting theoretical developments. Setting aside general issues concerning such a developed architecture of adverbs (see Ernst 2001 for an alternative view), the solution outlined in (38a) has two problems. First, it requires a significant number of silent adverbial heads, whose only motivation, at least for now, is that they register agreement. To avoid circularity in the argument, we would need to look for other evidence. Second, given the architecture in (39), it is not straightforward how the actual agreement exponents on the adverbs become prefixal or infixal. If anything, one would expect suffixation (because the exponent is in the functional head node), but instead we find the same ordering of agreement exponents as on verbs.

Solution (38b) is similar to (38a) in that the adverb is analyzed as probing to satisfy an unvalued phi-feature. However, under this analysis, agreeing adverbs are merged as adjuncts to *vP* and probe in their immediate local domain. To represent this schematically: an adverb is licensed as an adjunct; it probes the closest constituent with valued phi-features (v_2 , in the structure below) and values its [GENDER] feature from that constituent. Thus, the absolutive DP is the goal for the v_1 probe; v_1 serves as the goal for the v_2

probe, and v_2 serves as goal to the adverbial probe. If more adverbs are merged, they value their phi-features in successive valuation (case valuation arrows not shown).

(40)

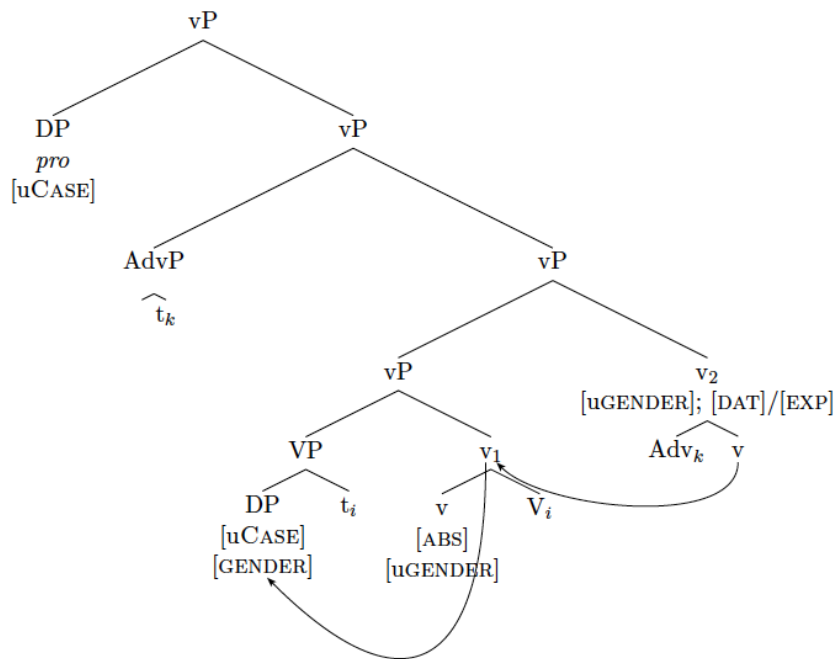


This approach derives the facts of Archi morphology in a more satisfactory manner than (38a), and finds support from additional facts. It is similar in spirit to the analysis proposed in Carstens and Diercks (2013) for Bantu; Carstens and Diercks' paper is exemplary in outlining different possibilities and then rejecting them on the basis of subtle data. The downside for both (38a) and (38b) is that these approaches require motivating the presence of phi-features on adverbs. This could be done by underscoring similarities between adverbs and verbs (an agreeing category) or adverbs and adjectives (another agreeing category), but of course it renders problematic the non-agreement of the vast majority of Archi adverbs. In addition, it is unclear how much can be gained by drawing parallels between adverbs and adjectives given that 'underived adjectives' in Archi do not agree.

The analytical possibility in (38c) offers an alternative. This analysis argues that agreeing adverbs originate in the vP and undergo head movement to incorporate syntactically into the verb (this is the analysis proposed by Antrim 1994 for Italian). Instances of Adv-to- v head movement occur in Archi in parallel to the instances of V-to- v head movement we saw above. To illustrate this analysis schematically: the adverb phrase (AdvP) is merged inside the vP ; the head of this AdvP then undergoes head movement to v_2 (just as the lexical verb undergoes head movement), and the agreement

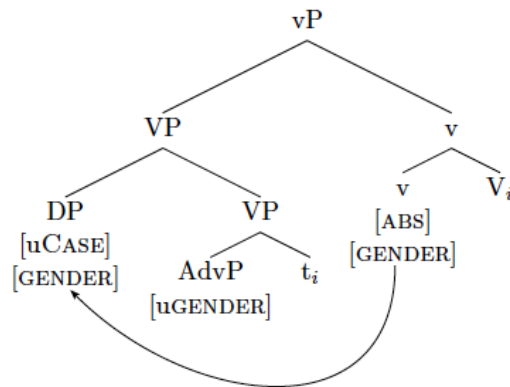
marker appears on it as an infix (as in our example) or as a prefix, but never as a suffix. All in all, the head movement of a VP-level adverb into v is identical to the head movement of the lexical verb. This account differs from the Cinque-style account in that it does not posit an unvalued phi-feature on the adverb. The agreement on the adverb is accidental; it is basically a reflex of agreement on the functional head v , which happens to be invisible. The adverb serves as a vehicle to express this agreement morphologically.

(41)



Finally, (38d) pursues the possibility that agreeing and non-agreeing adverbs are structurally distinct (this account is modeled after analyses in Corver 2007; Ledgeway 2011; Fábregas and Perez 2008). The basic idea is that some (not all) adverbs are more adjectival in their function and interpretation; because of that, such adverbs can modify the internal argument of the VP (object or subject of an unaccusative) and enter into an agreement relation in their in-situ positions locally within the VP (or remotely elsewhere in the clause). Thus:

(42)



On this approach, the agreeing adverbs constitute a special class within the more general category of adverbs; this class can be defined either by a combination of predicational properties and form (the agreeing adverbs all have the constituent *-ejt'u-*, which is a focus particle) or by their distributional characteristics. Their agreement is no longer accidental, but instead reflects their morphosyntactic status in the verb phrase.

All the possibilities outlined in this section need to be explored further; at this juncture, we only have positive data on Archi adverbial agreement, and without more in-depth information on the limitations of this agreement, it is hard to produce a more specific analysis. It would be helpful as well to clarify what criteria are used to determine the categorial status of adverbs. For example, Chumakina and Brown (2015) characterize the word *eq'en*, presented in example (43) below, as an agreeing postposition. However, the distinction between adverbs and postpositions in Nakh-Dagestanian is notoriously elusive (see Comrie and Polinsky 1999 for some discussion), and it is not impossible that *eq'en* is also an adverb.

- (43) to-w-mi-s sin-t'u ɬ:wak-du-t
that.one-I.SG-OBL.SG-DAT know-NEG near-ATR-IV.SG
duχriqʰa-k eq'en b-i-t:u-b
village(IV).SG.INTER-LAT <III.SG>up.to III.SG-be.PRS-ATR-III.SG
deqʰ.
road(III)[SG.ABS]
‘He does not know the way to the next village.’ (Kibrik et al. 1977a: 227)

4.2 Clauses with stative verbal predicates

Stative verbs are quite different from the non-statives that we have considered so far. They have only one stem; out of 190 stative verbs listed by Chumakina et al. (2007), only seven register agreement.

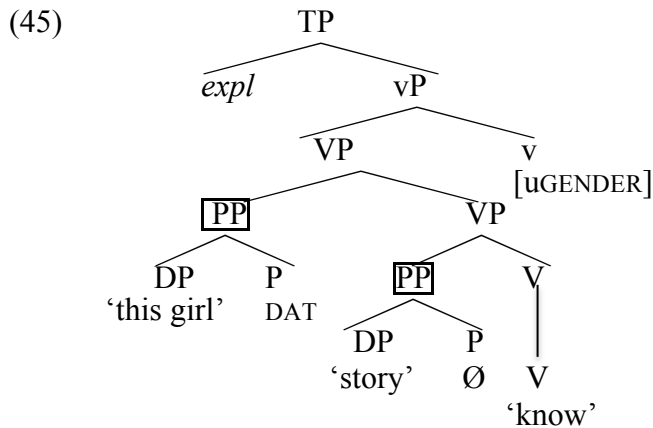
There could be a number of explanations for this lack of agreement on stative verbs, and future work is needed to explore the problem. Here, I will offer several considerations. First off, not all 183 non-agreeing stative verbs must necessarily be non-agreeing for the same reason. A scan of the stative verbs listed in Kibrik et al. (1977a: 71-72) suggests at least three (maybe more) subtypes: predicates expressing psychological and cognitive states (‘doubt’, ‘know’, ‘be sorry’, ‘be ashamed’), evaluative predicates (‘be enough’, ‘be better’), and genuine statives used as attributives (Kibrik et al. 1977a: 72). It is likely that the latter group can be subsumed within the category of non-agreeing attributive expressions (see section 5 below). Several verbs (e.g., ‘be difficult’, ‘be easy’) take a sentential complement in the absolutive position. Sentential complements are gender IV, and the verbal exponent of agreement in that gender is null, so it is conceivable that agreement in this case is just invisible on the surface.

The remaining verbs have different case frames (see Kibrik et al. 1977a: 71-72) but many of them have experiencer arguments. In some verbs, the experiencer argument is absolutive, and the stimulus appears in a locative case (e.g., ‘worry’, ‘fear’, ‘be embarrassed’—Kibrik et al. 1977a: 71). With other verbs, the stimulus is absolutive and the experiencer is a locative case (‘understand’, ‘know’). At least some of the statives may not have an external argument at all; they thus resemble applicative unaccusatives in Basque (Režac 2010: 225-231) or in Shipibo (Baker 2014), which have two internal arguments only.¹⁶ Unaccusative *v*Ps are defective in that they do not have a specifier position into which the external argument can be merged (cf. Chomsky 2001; Legate 2003; Marantz 2007, amongst others); in that sense, all unaccusative *v*Ps are built the same way. In addition, however, it is possible that what looks like an absolutive argument in Archi statives is actually a covert oblique, whose presence is motivated by the stative semantics (see Malchukov 2008 for a discussion of the

¹⁶ Baker refers to them as “dyadic unaccusatives” (Baker 2014: 345).

interpretive characteristics of such verbs). In that case, a sentence like (44) would have the structure shown in (45), and the verb *sini* could be more accurately rendered as ‘be known to someone’.

- (44) Ja-r laha-s χabar sini.
 DEM-II.SG child-DAT story(III).SG.ABS know.PRS
 ‘This girl knows the story.’



In (45), DPs endowed with phi-features are embedded under postpositional heads (P), with the relevant PPs are shown in boxes. Such a configuration renders the gendered DPs invisible to the probing head; nowhere else in Archi is there agreement between a verb and a PP. Thus, in the derivation of this structure, the probing head (*v*) does not find any goal that carries the requisite phi-feature; the result looks either like default agreement or the agreement with the expletive.¹⁷ As noted above, Archi default is gender IV; agreement with this gender has the null exponent. On the surface, then, the relevant verb appears to be non-agreeing, but in fact its agreement exponent is just an invariable null morpheme. The same result is achieved if the agreement is actually with the null expletive (dummy subject) since the gender of these expletives is also IV (Kibrik et al. 1977: 55-66). If agreement is with the null expletive then the direction of valuation is downward, as in (8b) above. Whichever way agreement is established on the verb such as ‘know’, it is marked by an innocuous null exponent, of the type

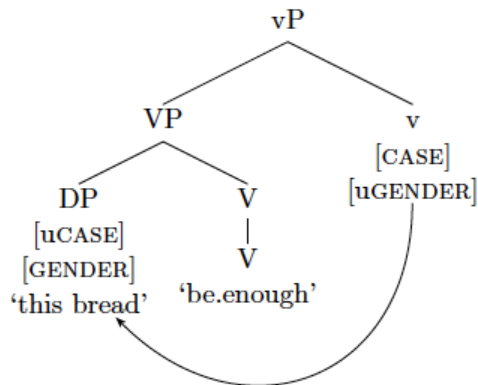
¹⁷ There is some debate in the current minimalist literature on agreement as to whether what we (descriptively) call default agreement is actually the morphology that surfaces when a probe fails to find a goal bearing the appropriate feature (cf. Preminger 2014: 137 for discussion and arguments for the latter view). If what we call “default” is in fact the absence of agreement, then the postulation of a null exponent on *sini* in (44) and (45) may not be needed.

that is standardly accepted across linguistic approaches and theories as it can be shown to appear in variation with overt forms.

In contrast, the handful of agreeing statives in Archi each have a genuine absolutive argument, not a PP. This absolutive DP can value the phi-feature on the functional head. Thus, the *vP* in the sentence in (46) presumably has the structure in (47):

- (46) Ja-b χ^walli b-aχ^ɛ.
 this-III.SG bread(III).SG.ABS III.SG-be.enough
 ‘This bread is sufficient.’

(47)



The difference in agreement between (44) and (46) is suggestive of the contrast between the structures in (45) and (47), respectively, but of course further independent evidence is needed to prove the hypothesis that the arguments in (44) are PPs. The data on Archi that were available to me do not include additional evidence on the differences between PPs and DPs, but establishing such evidence should be possible. Normally, most verbs select for DP complements, and only some verbs select for PP complements; judging by the distribution of putative dyadic statives, the limitations on selection are observable in Archi. More definitive evidence of differences between PPs and DPs should come from distributional properties that await exploration. For example, one can anticipate that PPs, but not DPs, should be islands for subextraction (Abels 2003; 2012; Corver 2015), that DPs and PPs may differ in their binding properties, and that they may be subject to different scrambling constraints (see Neeleman 1999; Landau 2009, for defining properties of PPs and differences between DPs and PPs).

4.3 Variable (“semantic”) agreement

4.3.1 Plurilinguals

To quote Corbett (2006: 155), the terms “semantic” and “syntactic” agreement apply in the following situations: “[S]yntactic agreement (sometimes called ‘agreement *ad formam*’, ‘formal agreement’ or ‘grammatical agreement’) is agreement consistent with the form of the controller (*the committee has decided*). Semantic agreement (or ‘agreement *ad sensum*’, ‘notional agreement’, ‘logical agreement’ or ‘synesis’) is agreement consistent with its meaning (*the committee have decided*). The distinction... in that the covariance involves a ‘semantic or formal property’ of the controller... The terms syntactic and semantic agreement are used only when there is a potential choice.”

It is critical for our discussion that “semantic” agreement in Archi happens only in the clausal domain; agreement in the noun phrase, which is discussed in the next section, does not vary according to semantics. What is called “syntactic” agreement is agreement with the morphological form of the DP. Since the theoretical assumptions of minimalism allow for the presence of silent elements, it is plausible to expect that “semantic” and “syntactic” agreement differ in the underlying structure of the goal, and that this difference may not be apparent from the surface form of that goal. In other words, what is referred to as “semantic” agreement is agreement with a structure which is either larger or smaller than the surface DP. One of the best-known cases of semantic agreement, which Corbett refers to in his remarks above, is the case of so called plurilinguals (den Dikken 2001): nouns such as *committee*, *crew*, *band*, etc., which look singular but can determine plural agreement on the predicate. Example (48a) illustrates “syntactic” agreement, driven by the morphology of *committee* as a singular noun, and (48b) shows “semantic” agreement.¹⁸ (Acceptability judgments for (48b) vary dialectally, but that does not diminish the need for an account that explains the variation in those English dialects that allow it.)

- (48) a. The committee has decided.
b. The committee have decided.

Just as in Archi, the English plurilingual distinction occurs only in verbal agreement, but not in DP-internal agreement—consider the ungrammaticality of the plural agreement in (49b):

¹⁸ The discussion of variable agreement in English reproduces den Dikken’s (2001) observations and analysis.

- (49) a. This committee has/have decided.
 b. *These committee has/have decided.

The variation in agreement is accompanied by several other effects. For example, while variable agreement is possible with regular plurals in existential constructions (where the existential verb can agree either with the associate or with the expletive subject), no such variability is observed with pluringulars:

- (50) a. There's/are lots of people holding a meeting in this room.
 b. There's/*are a committee holding a meeting in this room.

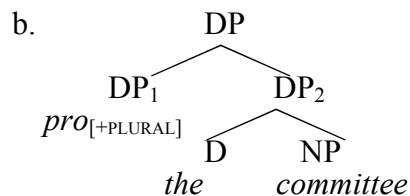
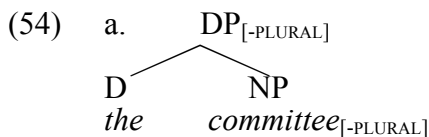
Difference in agreement with pluringulars mirror differences in person binding:

- (51) a. The committee consider themselves/*ourselves indispensable
 b. We, the committee, consider ourselves indispensable
 c. ??Our committee considers ourselves indispensable

Regular plurals can induce the phenomenon of agreement attraction, whereby a verb erroneously agrees with an intervening noun rather than the actual goal of agreement (52b); pluringulars never cause such attraction. Compare (52b), which is widely attested, and the completely unacceptable (53b):

- (52) a. The educational background of my neighbour's children is unclear.
 b. The educational background of my neighbour's children are unclear.
 (53) a. The educational background of the committee is unclear.
 b. *The educational background of the committee are unclear.

To account for the differences in pluringular agreement, den Dikken (2001) proposes that such expressions are structurally ambiguous between a regular DP (54a), which includes a noun that is specified as a non-plural, and a more complex structure (54b), which has an extra, silent, DP, specified as a plural pronominal. "Syntactic" agreement is agreement with (54a), and "semantic", with (54b).



All the differences discussed above (as well as some other effects addressed by den Dikken) are fully accounted for under the proposed structure. A pronoun cannot be combined with a demonstrative (cf. **these they*, **they these*), which explains why (49b) is ill-formed, and the plural *these* cannot act as the demonstrative for the common NP *committee*, since the noun is morphologically singular. Some exceptions, such as list readings, notwithstanding, pronouns in general are prevented by the definiteness effect from associating with existential *there*. This observation accounts for the ungrammaticality of (50b), which is incompatible with the structure in (54b). Similarly, the inability of pronouns to induce agreement attraction accounts for the impossibility of (53b).

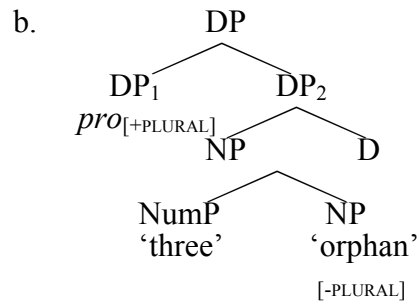
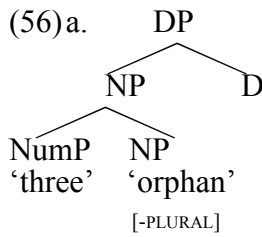
In sum, differences in agreement between (48a) and (48b) reflect principled differences in structure, shown in (54a) and (54b). This means that apparent variation in agreement is actually a result of structural ambiguity.

4.3.2 Archi pluringulars

Archi numerical phrases headed by human-denoting nouns allow both “syntactic” and “semantic” agreement, boldfaced in (55a) and (55b) respectively:

- (55) a. Os **i<w>di-li** **i<w>di-t’u** ðib-aw kulu
 one <I.SG>be.PST-EVID <I.SG>be.PST-NEG three-I.SG orphan
 lo.
 child(I)ABS.SG
 ‘Once upon a time there were three orphan boys.’ (T2:1)
 (lit.: ... there was or there was not...)
- b. Os **edi-li** **edi-t’u** ðib-aw
 one <I/II.PL>be.PST-EVID <I/II.PL>be.PST-NEG three-I.SG
 kulu lo.
 orphan child(I)ABS.SG
 ‘Once upon a time there were three orphan boys.’

Note that the noun in (55a,b) remains in the singular. As in the English pluringulars, the numeral invariably agrees with the singular noun in both examples, while the verb takes variable agreement. To account for the variation in (55a,b), we might hypothesize that numerical phrases can include a null pronominal; if such a pronominal is present, it triggers “semantic” plural agreement on the verb.



The pronominal postulated in (56b) can actually be overtly expressed, as the following example shows:

- (57) [DP [DP *Nen*] [DP [NP [NumP *q'we<ɾ>u*] [NP *e*]]]
 1PL.EXCL two<II.SG>
q'oc'o-li **q'i'jdi-li...**
 1PL.reconcile.PFV-CVB 1PL.sit.PFV-EVID
 'We two (girls) had reconciled (by then) and were sitting there...'
 (literally: 'we two having reconciled were sitting')

This example includes two verb forms, the converbal predicate of the embedded clause, and the matrix predicate 'sit'; both agree with *nen q'we<ɾ>u* 'we two' as a plural DP. The agreed-with DP seems to be the subject of the matrix clause, co-indexed with a null pronominal (*pro*) in the embedded clause which is also plural. Thus:

- (58) [DP *Nen* *q'we<ɾ>u*]_i [*pro*_i **q'oc'o-li**]
 1PL.EXCL two<II.SG> 1PL.reconcile.PFV-CVB
q'i'jdi-li...
 1PL.sit.PFV-EVID
 'We two (girls) had reconciled (by then) and were sitting there...'

When the pronoun is not part of the pluringular, the structure can differ. In (59), *nen* is a free-standing personal pronoun in the matrix clause, and *q'we<ɾ>u* 'two [girls]' is in the embedded clause, where it is not accompanied by the extra pronominal. Thus, the relevant DP in this sentence has the structure shown in (56a). The embedded verb agrees with that regular DP in the singular, and the matrix verb agrees with the pronoun in the plural. The pronoun *nen* does not have to be adjacent to *q'we<ɾ>u* to show this pattern of agreement.

- (59)a. *Nen* [q'we<ɾ>u **do-q'c'o-li**] **q'i'jdi-li...**
 1PL.EXCL two<II.SG> II.SG-reconcile.PFV-CVB 1PL.sit.PFV-EVID
 'We two (girls) had reconciled (by then) and were sitting there...'

pronominal. Thus the structure in (56b) actually predicts that the plural agreement on the numerical expression should be impossible.

To conclude, the account offered here bypasses any issue of variable agreement. The patterns are predictable and variation is an illusion. Different agreement patterns result from different structural configurations, which are not always visible on the surface; a more detailed analysis of underlying patterns allows us to distinguish between the different configurations. In particular, what is described as “semantic” agreement follows from the presence of a pronominal expression in the DP structure. At least in some cases in Archi, such a pronominal may actually be overt; in this sense, Archi presents a particularly compelling case in support of the present analysis. “Syntactic” agreement follows when the agreement goal does not include a pronominal in its structure. Since pronouns are often specified for animacy or gender, this approach also allows us to explain why seeming variation in agreement is observed only with human nouns; there is no non-human third person null pronominal, so the larger structure with an extra pronominal DP is simply not available for such nouns.

5 Agreement within the noun phrase

5.1 The range of facts to be accounted for

Archi has a small number of non-derived attributive forms (about thirty). Kibrik (1977b: 113) characterizes these forms as adjectives proper; they include names of nationalities (*mařarul* ‘Avar’, *o’ro’s* ‘Russian’) and names of properties, e.g., *biřin* ‘foreign, steep’ *ć’ere* ‘barren’. The rest of the attributive forms are derived, always with the extremely productive suffix *-t.u-*. Traditional descriptions refer to such forms as “derived adjectives” (Kibrik 1977b: 113ff.; Bond and Chumakina, this volume; Bond and Chumakina, in press; Chumakina and Corbett 2015). These forms show agreement, which is always suffixal — verbs, by comparison, do not allow agreement suffixes. The suffixes encoding gender and number agreement on the derived adjectives are presented below (see also Bond and Chumakina, this volume). Note that gender agreement is neutralized in the plural:

(63) Attributive agreement suffixes

	SG	PL
I	-w	-ib
II	-r	
III	-b	
IV	-t	

Archi demonstratives pattern with adjectives in showing suffixal agreement with the head noun in number and gender. The data below reveal close

similarities between the endings in (63) and the endings found on demonstratives; again, gender agreement is neutralized in the plural. Based on this identical pattern, we treat agreeing adjectives and agreeing demonstratives as members of the same general class of agreeing modifiers.

(64) Archi demonstratives

I	II	III	IV	PL	GLOSS
ju-w	ja-r	ja-b	ja-t	j-eb	this, close to the speaker
jamu	jamu-r	jamu-m	jamu-t	jem-im	this, close to the hearer
to-w	to-r	to-b	to-t	t-eb	that, further away from the speaker
gud-u	god-or	god-ob	god-ot	gid-ib	that, lower than the speaker
ɣud-u	ɣod-or	ɣod-ob	ɣod-ot	ɣid-ib	that, higher than the speaker

Finally, numerals, too, show a similar pattern of agreement with head nouns. Consider the following example, repeated from (55b):

- (65) Os **i<w>di-li** **i<w>di-t'u** ɬib-aw
 one <I.SG>be.PST-EVID <I.SG>be.PST-NEG three-I.SG
 kulu lo.
 orphan lad.I.SG
 ‘Once upon a time there were three orphan boys.’ (=55b))

In sum, several categories of nominal modifiers in Archi — derived attributive adjectives with the suffix *-t.u*, demonstratives, and numerals — show suffixal agreement with the head noun. The next section presents a derivational account of this attributive agreement. I limit the discussion to attributive forms that appear as nominal modifiers, setting aside those used as predicative constituents.

5.2 Attributive modifiers as adjoined phrases

The analysis of attributive agreement is not uniform across languages; treatment depends on the categorial status of adjectival (attributive) phrases and their placement within the noun phrase. Simplifying things somewhat, modifying adjectives can be viewed as specifiers/adjuncts, as heads, or as reduced relative clauses (see Cabredo Hofherr 2010; Alexiadou 2002 for an overview).

The adjective-as-head approach has a number of instantiations; the variant presented in (66a) places adjectives in the specifier of a dedicated

functional projection (FP) in the noun phrase structure. According to proponents of this approach, adjective–noun agreement occurs via raising, when the noun passes through the adjectival position on its way to a higher FP (Cinque 1994: 86-89). The mechanism of agreement in this scenario is not entirely clear, however (see Sichel 2002 for a critical discussion).

- (66) a. [DP [FP Adj [NP NP]]]
 b. [DP [FP N_i [FP Adj t_i [NP t_i]]]

Several researchers have offered arguments in support of the analysis of adjectives as heads. In particular, see Bernstein (1993) for Romance prenominal adjectives, Delsing (2008) for Scandinavian, Androutsopoulou (2001) for Greek, Carstens (2000) for Bantu, and Sichel (2002) for Hebrew, among others. Evidence for the head status (or, alternatively, the specifier-of-FP status) of attributive expressions across a number of languages comes from several sources, including ordering generalizations, interaction with definite marking, interaction with possessives, and various morphological processes. A particular advantage of treating (attributive) adjectives as heads on the nominal spine is that adjectival agreement can then be fully assimilated to clausal agreement (Carstens 2000; Sichel 2002). This is advantageous from at least two perspectives: first, more uniform agreement mechanisms produce a more parsimonious theory; second, clausal agreement is a better understood process, which can be of help in modeling adjectival agreement.

An alternative approach holds that all adjectives should be assimilated to (reduced) relative clauses (see Kayne 1994), thus appearing as adjuncts to NP/nP/DP. This analysis is schematized in (67), with the relative clause adjoined on the left (to show the Archi order):

- (67) [DP [NP CP/AP NP] D] (left) adjunction to NP

Under this analysis, a surface form in the standard adjectival configuration (e.g., ‘a challenging problem’) is understood to have an underlying relative clause structure (‘a problem (that is) challenging’).

Adjectives — and attributive expressions more generally — are a heterogeneous class cross-linguistically (and may be dissimilar even within a single language), which suggests that more than one analysis may be needed (see Alexiadou 2002 for an argument that APs should be analyzed both as specifiers of FP and as essentially predicative elements). If so, language-specific data can play a crucial role in deciding which analysis should be preferred in a given context. Depending on the characteristics of nominal modifiers in a language, it is also possible that both approaches to nominal agreement outlined in this section may be correct; ultimately, the

choice of nominal agreement analysis is contingent on the syntactic status of modifiers within a given language.

The facts of Archi available to us argue in favor of the adjunction analysis shown in (67). First, there is a morphosyntactic similarity between adjectives and relative clauses: both types of modifiers bear the suffix *-t:u-*, which serves as the morphosyntactic locus of agreement marking. (I will return to the categorial status of this marker below.) Second, there is no evidence of any kind of movement in DPs with attributive modifiers; relative clauses and adjectival attributive expressions appear in the same prenominal position, with the modified head noun to their right. Based on this structural parallel, an analysis that assimilates adjectives (and other attributive expressions) to (reduced) relative clauses is desirable. I will pursue such an analysis below, departing from the Kaynian approach. However, only *some* of the attributive forms in Archi will be treated as reduced relative clauses on this analysis. I understand the rest of these modifiers to be simple attributive forms that differ from relative clauses in their internal structure but share the same syntax of adjunction to the noun phrase they modify.¹⁹

To pursue this approach, we must first develop a version of (67), in which all attributive forms are adjoined to the modified NP; a subset of these forms will be treated as reduced relative clauses. The relevant structure is shown in (68), where I represent all the modifiers atheoretically as Attributive Phrases (AttrP).



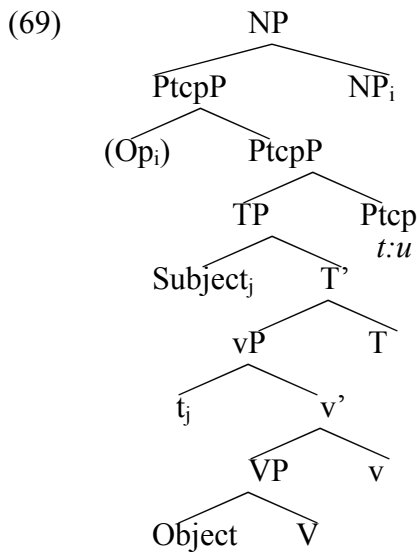
In what follows, I will first discuss actual reduced relative clauses, then other modifiers, and will then show how agreement on these modifiers can be accounted for by concord.

¹⁹ It is possible that non-derived attributive forms, which are also prenominal, may appear as specifiers of FP, as shown in (66a) above. Such a differential analysis of Archi attributives may account for the non-agreeing nature of non-derived attributives (see section 5.1). It would also echo the ideas in Bond and Chimakina (to appear), who argue that agreeing and non-agreeing adjectives are categorially different in Archi. Let's assume the structure such as (66a) for some adjectives; since we postulate no movement of the noun through the specifier position that houses the adjective, this structural configuration provides no source for agreement. Testing against additional data is necessary to support or refute any such possibility.

5.3 Archi attributive modifiers

5.3.1 Archi attributive modifiers as reduced relative clauses

Relative clauses are usually analyzed as CPs. However, reduced relative clauses are also amenable to a participial analysis, where a special nominalizing node can embed a verbal structure, including tense/aspect/mood (TAM) morphology (Doron and Reintges 2005). Following Doron and Reintges' proposal, I adopt the following general structure for clausal participial modifiers:



The participial node does not have to embed the entire tensed clause; it can also embed a *vP* or a smaller phrase (see Doron and Reintges 2005 for a discussion and examples from Afroasiatic languages).

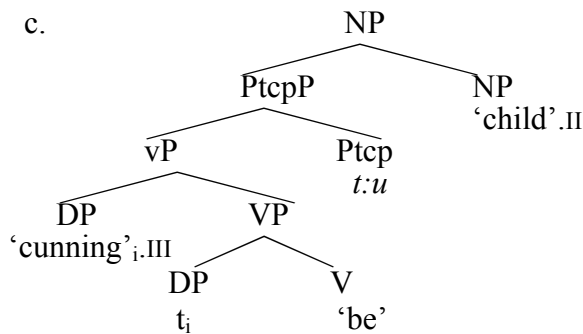
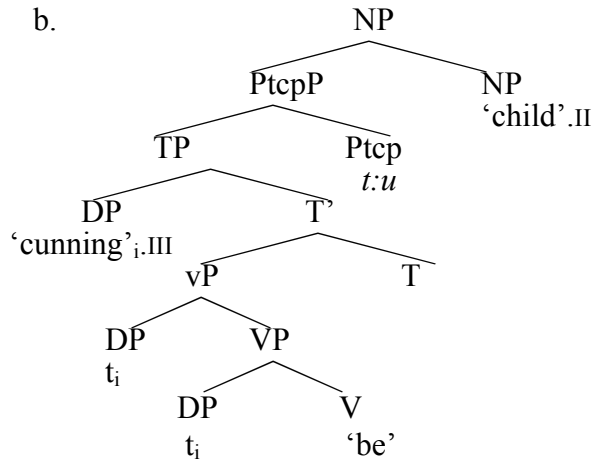
The structure schematized in (69) allows us to identify the suffix *-t:u-* as a participial node (Ptcp). This node embeds a tensed structure (as shown in (69)), a verb phrase, or any other non-participial phrase, and turns it into an attributive expression. This node also serves as the morphosyntactic locus of agreement, to which gender agreement markers are suffixed.

Assuming the participial relative analysis, the noun phrase in (70a) has the structure shown in (70b) or (70c).²⁰ To decide between (70b) and (70c), we would need additional data (for example, evidence on the types of adverbials permitted in the participial clause and data on modal and negative affixes acceptable in the participle); in the absence of such data, I just

²⁰ For expository ease, I am using English glosses in the schematics, but annotate them with the grammatical features of the respective Archi expressions.

present both possible structures; the choice between them does not affect the analysis of agreement in the noun phrase.

- (70) a. [s:iɦru b-i-t:u-r] lo
 cunning(III).SG.ABS III.SG-be.PRS-ATTR-II.SG child(II).SG.ABS
 ‘a cunning girl//a girl with slyness’
 (lit.: girl for whom slyness exists)

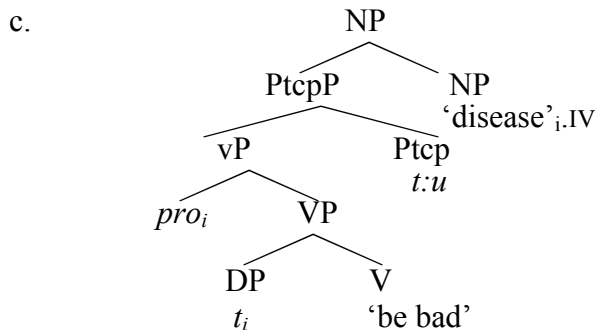
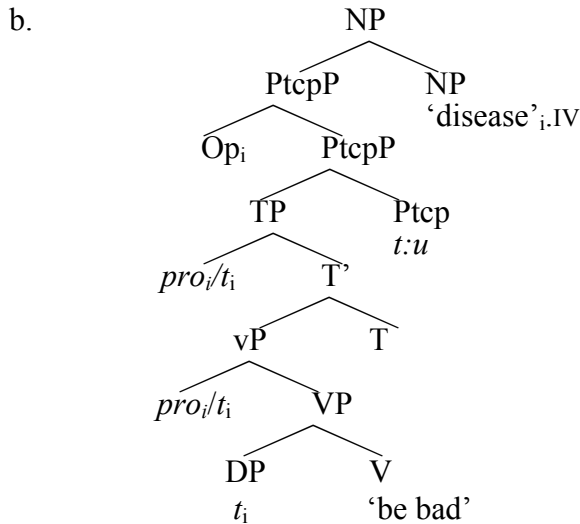


In these structures, the unaccusative relative clause verb ‘be’ agrees with its sole argument, ‘cunning’ (gender III), which has raised from the internal argument position that generates subjects of unaccusatives. This agreement is properly verbal, so it is marked as a prefix, in keeping with the standard verbal agreement pattern in Archi (see section 3).

Consider now two additional examples that support the proposed analysis of attributive modifiers. If the relative-clause analysis is on the right track, we can predict that verbs that do not show agreement (see section 4.2 for such verbs) will appear with the participial suffix *-t:u-* and have suffixal agreement only. This prediction is confirmed. Consider the stative verb *bala* ‘be difficult’, which does not agree with its argument. The only agreement marker is the suffix that follows *-t:u-*; the participle agrees

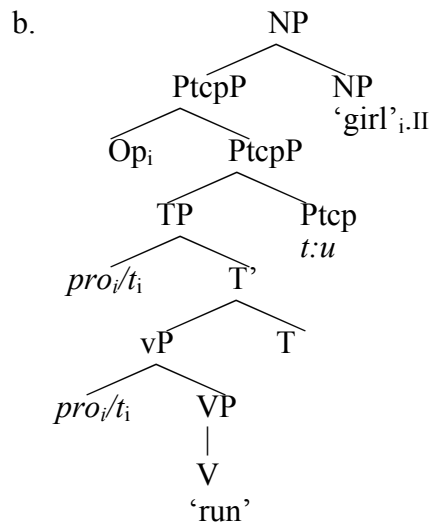
in gender with the head noun *ac:i*.²¹ Again, I am showing two possible structures, the choice between which would require more data on Archi relative clauses.

- (71) a. [bala-t:u-t] ac:i
 be.difficult-ATTR-IV.SG disease(IV).SG.ABS
 ‘bad (tough) disease’



Let us continue with the assumption that the relative clause analysis is applicable to (at least some) Archi modifiers. If the predicate of a relative clause takes part in agreement, it is expected to agree with the absolutive argument, as occurs elsewhere in Archi (see section 3). Such verbal agreement is expected to be infixal or prefixal, as schematized in (72a)

²¹ In the proposed structure (71b), the head noun may undergo extraction (represented by a trace) or simply be co-indexed with a null pronominal. The choice between these two options is not critical for the discussion here and would require additional empirical evidence, such as reconstruction and binding data.



The examples presented in this section all show a typical configuration between a restrictive relative clause and its head. The relationship between the head noun and the relative clause may be adpositional, as in (70a),²² or may rely on co-indexation between the head noun and a constituent or subconstituent in the relative clause, as in (73).

In examples (23c), (24c), and (25c) above, the head noun ‘place’ is coindexed with the presupposed locative adjunct in the relative clause. The locative adjunct inside the relative clause can also be expressed by an overt adverb, as shown below, where *tenik* ‘there’ inside the participial clause and the external head *biq* ^w ‘place’ are coreferential:

- (74) [laha-s Rasul tenik_i w-ak:u-t:u-t]
 child.I.SG.OBL-DAT Rasul.ABS.I.SG there I.SG-see-ATTR-IV.SG
 biq^w_i
 place.IV.SG.ABS
 ‘the place where the child saw Rasul’
 (lit.: ‘the place that the child saw Rasul there’)

Having established the internal structure of Archi participial relative clauses, let us now further probe the relationship between that relative

²² Gapless relative clauses in which the head noun is not represented in the relative clause itself are independently attested in Archi. Consider the example below, and see also Daniel and Lander (2011: 149).

- (i) [χ:walli b-ača-r-t:u-t] di
 bread(III).SG.ABS III.SG-bake-IPFV-ATTR-IV.SG smell(IV).SG.ABS
 ‘the smell of bread being baked’

clause and the head noun. If we assume the structure of Archi attributive modification as in (67) and (68), then we can postulate that the head noun may be replaced by a proform — just as, in English, it is possible to replace *girl*, in the noun phrase *the running girl*, with *one*. While in English the proform has to be overt (*one*), in Archi, the equivalent proform is null, and the agreement suffix serves to narrow the range of possible referents to those compatible with a given gender specification. For example, compare (75a) and (75b):

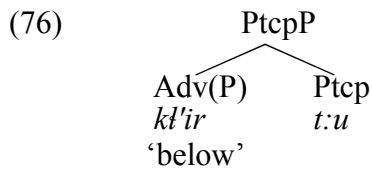
- (75) a. [d-eʳʃ:u-r-t:u-r] lo
 II.SG-run-IPFV-ATTR-II.SG child(II).ABS.SG
 ‘a/the running girl’
- b. [d-eʳʃ:u-r-t:u-r] e
 II.SG-run-IPFV-ATTR-II.SG
 ‘the running one’ (a female)

From the semantic standpoint, both the (reduced) relative clause and the head behave like predicates in this configuration, and can therefore only combine by intersection. The result of such an intersection is a new predicate. For example, in (71), “being-bad” refers to the set of things that are bad, and “disease” refers to the set of things that are illnesses; both are predicates. The intersection of their denotations derives the (sub)set of referents corresponding to “being-bad disease”. The determiner converts the predicate denotation from a singleton set to the unique individual in the set.

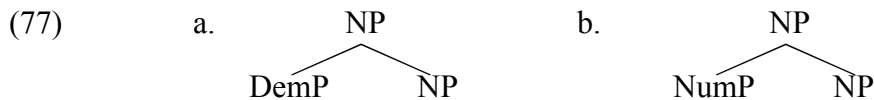
5.3.2 Archi attributive modifiers which are not relative clauses

Not all attributive modifiers can be constructed as relative clauses. For example, adjectives such as “former”, “future”, “possible”, “alleged”, etc., do not denote a set of individuals that intersects with the set of individuals denoted by the noun. Rather, the interpretation of these “intensional” adjectives crucially relies on a time and/or world different from the actual/current one. The same applies to demonstratives, which are not intersective in the same sense as “running” or “cold”. Despite these differences, however, all these attributive forms appear before the noun in Archi and they all show the same suffixal agreement. In terms of their internal structure, they fall into two classes: attributive modifiers with the suffix *-t:u-* (comprising the majority of forms) and other modifiers, such as numerals and demonstratives.

Modifiers formed with the suffix *-t:u-* can be considered participial, but unlike the participial clauses discussed in the preceding section, they are probably phrasal or lexical. For example, the non-intersective adjective *kl'irt:u-* ‘former’ (literally, ‘(one) below’) has the following tentative structure, where the participial head embeds either a lexical adverb or an adverbial phrase:



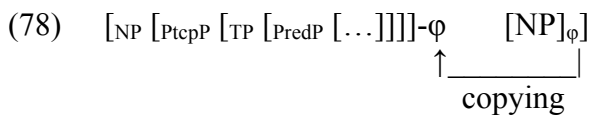
Numerals and demonstratives are not participial but they also appear as adjoined modifiers of the NP. Thus, their syntactic relation to the noun they modify is the same as the relation held by the participial modifier, along the lines shown in (68) above.



Now that we have established an understanding of the syntactic relationship between attributive expressions and the noun phrases they modify, let us examine agreement inside the Archi noun phrase.

5.4 Attributive agreement: Concord

When an attributive expression is left-adjoined to its head noun (as in (68)), the relationship between the two cannot be mediated by Agree. The two expressions are not in a c-command relation, and in some instances, the head noun is not even represented in the relative clause — consider (70) and example (i) in footnote 22. Further, the verb in the relative clause has already had its phi-features valued by its own absolutive argument, and there is absolutely no evidence that the participial head *-t:u-* has any phi-features. All these facts indicate that Agree cannot apply. Instead, we posit that the relationship between the predicate of the relative clause and the head noun is one of concord (see section 2.2). The phi-features of the noun are simply copied onto the predicate of the relative clause, and since copying is not restricted to a single occurrence, these features can be copied on multiple attributive expressions modifying a given noun. To represent this schematically,



Not only are multiple instances of copying allowed under concord, but copying can also occur over (apparent) intervening material — a configuration impossible for Agree, which observes strict locality. Possible evidence of copying across intervening material comes from agreement in attributives that are separated from the head noun by non-agreeing adjectives. In general, attributive adjectives follow a particular order (cf.

indiscriminately across languages without a critical evaluation of language-internal facts. After all, some languages show a striking similarity between noun phrase architecture and clausal architecture (see especially Carstens 2000); it remains to be seen what factors determine the possible parametric variation.

6 Conclusions

Above I have sketched a minimalist analysis of the main agreement phenomena of Archi, at the level of the clause and at the level of the noun phrase. All of the facts surveyed here can be handled straightforwardly by minimalist syntax. It is an inspiring result that even complex agreement patterns such as those found in Archi do not require any theoretical innovations and can be accounted for using independently available mechanisms and operations. In terms of the actual structure, it is notable that all case and agreement licensing in Archi happens at the level of the verb phrase (vP), not the tensed clause. Throughout Archi, agreement serves as evidence of underlying structure, providing surface indications of the functional projections inside the clause; in terms of L1 acquisition, these agreement markers form a trail of morphological breadcrumbs leading Archi Hansels and Gretels to the design of their language.

Agreement within the noun phrase in Archi is subject to the principles of concord and cannot be reduced to Agree. Most Archi attributive modifiers seem to fit the profile of (reduced) relative clauses and are adjoined to the nouns they modify; there is no evidence of movement inside the noun phrase. I have proposed a participial analysis of these reduced relative clauses, one that allows us to unify all attributive forms derived with the suffix *-t.u-* under the rubric of lexical, phrasal, and clausal participles. The remaining modifiers, such as numerals and demonstratives, also have attributive characteristics and are adjoined to the NP in the same way that reduced relative clauses are.

The proposed structures, combined with the distinction between Agree and concord, also allow us to account for the different mechanisms of agreement in Archi, which employ prefixes/infixes on the one hand and suffixes on the other. Prefixation and infixation are straightforwardly associated with the head movement of lexical verbs/adverbs to a functional head position inside the verb phrase, while suffixation is a sign of feature copying. While Archi data are best accounted for by separating Agree and the mechanisms of nominal concord, this result does not mean that the unifying approach to verbal and nominal concord should be abandoned. This approach may be applicable in some languages, but not in Archi, where strong language-particular evidence points to the differential approach to agreement in the two domains.

On a more general level, the discussion above shows that, in order to explain apparently complex facts, we often need to start from very basic

structures; for example, we had to examine argument hierarchy and basic case licensing facts in order to approach agreement. To determine the syntax of a language, one needs a large body of paradigmatic facts, some straightforward and seemingly uninteresting, some very subtle. Sometimes surface cues suggest substantive differences when there really are none; such may be the case with agreeing adverbs in Archi. On the other side, sometimes superficially similar grammatical objects turn out to be different, as may be the case with Archi statives — I tentatively proposed that the absence of agreement on certain statives may be due to structural differences between different facets of the stative repertoire. Likewise, what seems to be an arbitrary difference between singular and plural agreement with some plural nouns denoting humans has been shown to follow from principled structural variation in the representation of such nouns: when the verb agrees with a human noun in the plural, it signals the presence of an additional pronominal element specified as plural in the noun phrase structure.

Some proposals outlined here, especially those presented in section 4 and my suggestion concerning non-agreeing adjectives, may need revision if and when additional data become available. Hopefully, the tentative analyses sketched in this chapter will guide us in the elicitation of new empirical data needed to test the relevant accounts of Archi.

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